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25 March 2016

Mr. John Nordine
U.S. EPA Region 5
RCRA Enforcement and Compliance Assurance Branch (LU-9J)
77 West Jackson Boulevard
Chicago, Illinois 60604

Re: Central Wire, Union, Illinois RCRA CMI Monthly Progress Report for December 2015, Revision 2

Dear Mr. Nordine:

Enclosed please find the revised RCRA CMI Monthly Progress Report for the Central Wire facility located in Union, Illinois for the month of December 2015.

The eDMR for the groundwater pump and treat facility and the laboratory analytical report, which includes the effluent data used in the eDMR for December 2015, are also attached to this report.

If you have any comments or questions regarding the progress of this project, please contact me at (262) 237-1130.

Sincerely,

Autumnwood ESH Consultants, LLC

John W. Thorsen, P.E.

JWT:jt

encl

cc:

	Joyce Munie	IEPA
	Robert Kay	USGS
	Gerald W. Ruopp	Central Wire
	Robert Johnson	Central Wire

MONTHLY PROGRESS REPORT
Central Wire Union, Illinois Site
December 2015

1. **Progress Made This Reporting Period** – This reporting period Central Wire continued the operation and maintenance of the groundwater extraction and treatment system. Central Wire treated an average of 632,000 gallons per day with a maximum daily flow of 632,000 gallons per day and met effluent limitations for pH, 1,1,1-Trichloroethane (TCA), Trichloroethene (TCE) and Tetrachloroethene (PCE). The electronic Discharge Monitoring Report (eDMR) for December 2015 is attached to this report.

   The laboratory analytical report for the pump and treat effluent noted that the groundwater pump & treat effluent samples were collected on December 8 and arrived at the lab on December 9, 2015 at 1.0° C. It also notes that, while one or more of the sample VOA vials were broken upon receipt, the lab did receive sufficient sample in the unbroken containers to properly analyze the sample. This checklist also noted that "Headspace larger than ¼" in one or more vials" but also noted there was at least one vial with acceptable headspace. This was confirmed verbally with Test America's Project Manager on January 27, 2016.

   The **Ex. 6 Personal Privacy (PP)** well engines were put into storage in November and will not run again until sometime in spring 2016.

   In December the two data loggers were sent back to the factory for a rebuild. These data loggers are factory calibrated/verified against a National Institute of Standards and Technology traceable device as compared to each calibrated unit, not to each logger. They monitor the water pressure at the level they are set at (30.25 feet below the top of the well casing) which can then be translated into water elevations. In the past, Central Wire would replace logger no. 1 at the end of the month with logger no. 2 and download the data from logger no. 1. At the end of the following month, they would replace logger no. 2 with logger no. 1, and so on. This was done to take the inactive logger to the office to download the data. Since the calibrations may not have been exactly comparable and may have drifted further apart over five years, they were sent back to the manufacturer for a rebuild and recalibration in December 2015. Upon recontacting the manufacturer, they have indicated that they have a shuttle that is a portable memory so you can download the data in the field and use the same data logger for up to 5 years. Central Wire has indicated they will purchase the shuttle to eliminate the slight variations we have seen in the past.

   One data logger will be placed in DGW-2I for the winter and the data will be tabulated and graphed in the month that the irrigation well engines are remobilized.

   Summary of Validated Data and Results – The monthly effluent sampling took place on December 8, 2015. The permit limitations and December analytical results are shown in Table 1, below.

Table 1
Central Wire Union Illinois Pump & Treat Discharge Analytical Results

Parameter	Effluent Limitation (Daily Maximum), µg/L	December 2015 Analytical Results, µg/L
1,1,1-Trichloroethane	20	< 1.0
Tetrachloroethene	20	< 1.0
Trichloroethene	20	<0.50

The December NPDES analytical report is attached to this Monthly Progress Report.

In addition, the fall semiannual RCRA CMI groundwater and residential well sampling event was conducted on December 9 & 10, 2015. The results / trends are summarized below. The historical data, plots (of the data, Figures 1 through 11) and laboratory report are attached to this report. The locations of the monitoring wells and the residential wells are provided on Figure 12. The table in Attachment 1 provides a crosswalk between the residential well owner's name, which is on Figure 12 and the address, which is in the analytical report for the residential wells. **MW (Monitoring Well) 2** - No Environmental Protection Agency (EPA) Maximum Contaminant Limits (MCLs) have been exceeded since December 2007, see Figure 1.

- **MW-4** - Tetrachloroethene (PCE) has been exceeded since monitoring began in 1995 and since 2010 has trended downward from 70 micrograms per liter (µg/L) in December 2010 to 14 µg/L in December 2015. See Figure 2. The Trichloroethene (TCE) MCL was last exceeded in October 2014, but other than that occurrence, it has tested below the MCL since June 2012.
- **MW-5** - The PCE MCL has been exceeded since monitoring began in 1995 and has trended downward from 210 µg/L in December 2003 to the 100s in the 2000s and has been less than 100 µg/L since December 2012, see Figure 3. TCE, 1,1,1-Trichloroethane (TCA) and Dichloroethene (DCE) MCLs were last exceeded in the 2003 – 2005 time frame.
- **MW-5D** – TCE increased rapidly from 1995 to 2002 (0 to 63 µg/L) and has generally trended downward since then with the six latest readings ranging from 18 µg/L down to11 µg/L, see Figure 4. PCE has been below the MCL of 5 µg/L since June 2005.
- **MW-6** - Has only exceeded the PCE MCL and has been slightly below the MCL of 5 µg/L since December 2012, see Figure 5.
- **MW-7**- Regularly exceeds the MCL for PCE and has been trending lower since it reached 200 µg/L (the most recent result was 38 µg/L), see Figure 6. PCE has been less than 100 µg/L since March 2008. The DCE MCL was last exceeded in December 2009, but other than that isolated occurrence, has been found at

levels below the MCL since June 2003. The TCE MCL was last exceeded in December 2012.

- **MW-8** - Has regularly exceeded the PCE and TCE MCLs since testing began in 1995, see Figure 7. PCE has come down from 200 μg/L in 2008 to a range of 60 to 72 ug/L since June 2011. TCE levels have come down from a high of 34 μg/L in June 1995 to the June 2015 value of 6.7 μg/L. Other than the 13 μg/L found on October 2014, values have been found at less than 10 μg/L since June 2011.
- **MW-9** - Has not exceeded any MCL since April 2002 when it exceeded the PCE MCL with a value of 12 μg/L, see Figure 8. There have only been three detections since then.
- **MW-HBR** - Only exceeds the MCL for PCE which it has done since monitoring began in 1995. However it has generally trended downward from a high of 130 μg/L in 2003 to the current lowest value of 36 μg/L, see Figure 9.
- **DGW-1** is a three well nest – shallow (S), Intermediate (I) and Deep (D).
    - No MCLs have been exceeded in **DGW-1S**, see Table 2.
    - **DGW-1I** has exceeded MCLs for DCE, TCE, PCE, TCA and 1,2-Dichloroethane (DCA), see Figure 10. The PCE MCL has not been exceeded since 2002. The DCA MCL has not been exceeded since 2005. The TCA was below the MCL in the December 2013 and June 2014 samples, spiked up to 420 μg/L in October 2014, and was at 250 μg/L in the December 2015 sample. DCE and TCE were found in December 2015 at 42 and 32 μg/L, respectively, with no apparent trend.
    - **DGW-1D** has exceeded MCLs for DCA, DCE, TCE and Vinyl Chloride (VC), see Figure 11. The Vinyl Chloride (VC) MCL had been exceeded in four of the six sampling events from June 2013 to December 2015. MCLs for 1,2-DCA have not been exceeded since December 2012. TCE was below the MCL in December 2015. 1,1-DCE has generally trended lower since the high of 98.4 μg/L was recorded in December 2005 and was at 15 μg/L in December 2015.
- **DGW-2** is also a three well nest (shallow, intermediate and deep) that has been sampled since 2012. There have been no detections of the volatile chemicals of concern at this well nest, see "12-2015Semiannual Monitoring and Residential Well Final Analytical Report".

Seven residential wells and one irrigation well Ex. 6 Personal Privacy (PP) were sampled in the December semiannual RCRA sampling event. There were no detections of any VOCs by EPA Method 8260B, including all of the chemicals of concern at Central Wire.

The field stabilization data for the monitoring and residential well sampling is attached to this Monthly Progress report as Table 3.

This report also had environmental analytical results for the North Pond and South Pond. These ponds are Illinois EPA-regulated seepage ponds for Central Wire's rinse waters from the annealing process, non-contact cooling water, boiler blowdown and storm water.

Data from the quarterly analysis of samples collected at the extraction wells 1 and 2 are also included in this lab report.

Central Wire assembled Table 4 to show that the concentrations of the chemicals of concern have been reduced over time in the groundwater that is captured by the extraction wells. These averages for any one value are made up of eight discreet samples over a year – four quarterly samples from 2 extraction wells.

There have been significant reductions in TCE and 1,1,1-TCA, but lesser reductions in PCE.

Some of the plume has moved past the extraction well capture area. Chlorinated solvents were detected in the original sentinel well nest of three wells (DGW-1) as early as 1998. As a result, Central Wire has been sampling the residential wells along Route 176 twice per year since 2007, put in a new sentinel well on the south side of Route 176 and has been determining where the leading edge of the chlorinated plume is every year or two since 2007.

2. **Upcoming Events/Activities Planned** – Central Wire will continue to operate the existing remediation systems. Effluent samples will be collected, analyzed and reported as required in our NPDES permit.

   In January 2016 a Work Plan will be submitted for the plume investigation EPA requested Central Wire to conduct in spring 2016.

3. **Anticipated Problem Areas and Recommended Solutions** – None.

4. **Key Personnel Changes** – None.

5. **Target and Actual Completion Dates** – This project has not deviated from the project schedule.